

REMARKS

Claims 1-18 are all the claims pending in the application.

Applicants submit herewith a Declaration under 37 C.F.R. § 1.132, as discussed below in section III.

I. Preliminary Matters

Applicants appreciate the Examiner's courtesy in granting the Request for Suspension of Action.

II. Claim Rejections - 35 U.S.C. § 112

On page 3 of the Office Action, Claims 1-9 and 18 are rejected under 35 U.S.C. § 112, first paragraph, as allegedly failing to reasonably convey to a skilled artisan that the inventors had possession of the claimed invention at the application filing date.

Applicants incorporate herein by reference the response to the written description rejection including claim amendments as set forth in the Amendment under 37 C.F.R. § 1.116 filed April 6, 2009.

Withdrawal of the rejection is respectfully requested.

III. Claim Rejections - 35 U.S.C. § 103

A. On page 2 of the Office Action, Claims 1-9 remain rejected under 35 U.S.C. § 103(a) over Nelles et al. in view of Kobayashi et al. (U.S. Patent No. 6,294,313) and Georger et al. (U.S. Patent No. 5,324,591).

Applicants incorporate herein by reference the response to the outstanding prior art rejections including claim amendments as set forth in the Amendment under 37 C.F.R. § 1.116 filed April 6, 2009.

Applicants submit the following additional remarks.

Applicants submit that Nelles et al. do not disclose the use of polydimethyl siloxane (PDMS), e.g., in Example 2. Further, the method disclosed in Example 3 of Nelles et al. is different from the method of the present invention in that the PDMS stamp was inked with laminin solution and the inked stamp was dried and pressed onto the substrate (*see*, paragraph [0061]). On the other hand, in Example 1 of the present application, for example, a glass substrate was coated with fluoroalkyl silane and tetramethoxysilane, the coated substrate was subjected to UV exposure via a photomask comprising photocatalyst, and the substrate with a cell adhesiveness variation pattern was obtained. Accordingly, for the reasons above and for the reasons set forth in the Amendment under 37 C.F.R. § 1.116, the method of Nelles et al is largely different from the method of the present invention.

Withdrawal of the rejection is respectfully requested.

B. On page 5 of the Office Action, Claims 1-9 and 18 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Nelles et al., in view of Kobayashi et al., and Georger et al., and further in view of Haddow et al., and Ostuni et al. (U.S. Patent No. 6,893,850).

Applicants incorporate herein by reference the response to the outstanding prior art rejections including claim amendments as set forth in the Amendment under 37 C.F.R. § 1.116 filed April 6, 2009.

Applicants submit the following additional remarks.

First, in the Advisory Action of May 12, 2009, it was indicated that the arguments, presented in the Amendment Under 37 C.F.R. § 1.116, e.g., that in the method of Nelles et al., the cells are damages when removing the matrix adhesion from the cells, and therefore, Nelles et

al. cannot provide the advantageous effect of the present invention, were unsupported by evidence or declarations. In response, Applicants submit a Declaration Under 37 C.F.R. § 1.132 in support of the argument that the method of Nelles et al. requires transferring the matrix in which cells are embedded, and the cells are damaged when removing the matrix adhesion from cells.

Further, Applicants submit under a separate transmittal letter, a copy of the publication “Encouraging Effect of Cadherin-Mediated Cell-Cell Junctions on Transfer Printing of Micropatterned Vascular Endothelial Cells,” Langmuir 2009, 25(12), 6947-6953) (hereinafter “Langmuir”), indicating that the present invention has an advantageous effect. That is, it is demonstrated in Figure 7 that transferred endothelial cells had good viability. The cells stained green are living cells and the cells stained red are dead cells. As shown in Figures 7E and 7F, most micropatterned endothelial cells after transfer printing are stained green (i.e. living). On the other hand, ethanol-treated cells (negative control) are stained red (i.e. dead).

The copy of Langmuir is being filed concurrently herewith as evidence directed to an issue of patentability raised in the Action. Therefore, Applicants need not satisfy the requirements of 37 C.F.R. §§ 1.97 and 1.98 in order to have the Examiner consider the information contained in the document relied on by applicant. In other words, compliance with the information disclosure rules is not a threshold requirement to have information considered when submitted by applicant to support an argument being made in a reply to an Office action. *See, MPEP § 609.05(c).*

Next, in response to the allegation in the Advisory Action that “it is extremely well known in the art that wettability is interpreted as hydrophilicity and hydrophobicity, and the cell adhesion can be determined by such wettability”, Applicants submit that present invention is

based on the finding that patterned cells adhered to a surface with certain wettability (i.e. with appropriate adhesiveness) can be transferred to another surface while keeping the pattern, as required, for example, in claim 1 (i.e., "transferring the adhered cells to a cell culture substrate in the patterned state... wherein the first region in the cell adhesiveness variation pattern has water contact angles between 10° and 40°"). None of the cited documents relied upon in the rejection teach or suggest this technical feature.

Withdrawal of the rejection is respectfully requested.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



Joseph Hsiao
Registration No. 51,822

SUGHRUE MION, PLLC
Telephone: (202) 293-7060
Facsimile: (202) 293-7860

WASHINGTON OFFICE
23373
CUSTOMER NUMBER

Date: September 2, 2009